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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,197	03/26/2004	Brent R. Jones	D/A2010Q2-US-DIV	2939

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EXAMINER	
LIANG, LEONARD S	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/811,197	JONES ET AL.	
	Examiner	Art Unit	
	Leonard S Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9,13-16 and 23-25* is/are rejected.

7)☒ Claim(s) *3,10-12 and 17-22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03/26/04* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/26/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 46 (page 17, paragraph 0041). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 discloses "wherein the insertion direction is substantially perpendicular to the insertion direction." However, it is not clear how an insertion direction can be perpendicular to itself. Clarification is required.

Also, just for a point of clarification, the examiner is wondering whether in claim 15, the limitation of "wherein the **second** insertion perimeter is oriented in a different direction than the fourth feed direction" should be "wherein the **fourth** insertion perimeter is oriented in a different direction than the fourth feed direction". However, this is not subject to a 112 rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 5-9, 13-16, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford et al (US Pat 5861903) in view of Loofbourow et al (US Pat 5442387).

Crawford et al discloses:

- {claim 1} An ink stick for use in a solid ink feed system of a phase change ink printer (figure 2, reference 12), wherein the solid ink feed system includes an elongate ink stick feed channel (figure 2, reference 25A-D); and a key plate covering at least a portion of the ink stick feed channel along the feed direction (figure 2, reference 18), wherein the key plate has an insertion opening providing access in an insertion direction into the feed channel (figure 2, reference 24A-D); a three dimensional ink stick body having a guide surface and an insertion perimeter (figure 2, reference 12); wherein the ink stick insertion perimeter is in a

plane substantially perpendicular to the insertion direction (figure 2, reference 12); wherein the insertion direction is substantially different from the feed direction (figure 2, reference 12, 24A); wherein the insertion perimeter has at least one perimeter section forming a nonlinear key element that matches in size and shape a nonlinear key element in the perimeter of the key plate insertion opening (figure 2, reference 12)

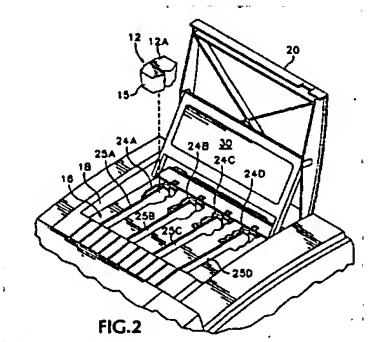

FIG.2

- {claim 2} wherein the insertion perimeter forms a visually recognizable symbol, and the at least one perimeter section forms a portion of the visually recognizable symbol (figure 2, reference 12, 24A-D; key shapes can be viewed as visually recognizable symbols because the different shapes correspond to different ink colors)
- {claim 5} An ink stick (figure 2, reference 12); wherein the solid ink feed system includes an elongate ink stick (figure 2, reference 25A-D); a key plate covering at least a portion of the ink stick feed channel along the feed direction (figure 2, reference 18); wherein the key plate has an insertion opening providing access in an insertion direction into the feed channel (figure 2, reference 24A-D); a three dimensional ink stick body having a guide surface and an insertion perimeter

(figure 4, reference 12); wherein the insertion direction perimeter is in a plane substantially perpendicular to the insertion direction (figure 2, reference 12); wherein the insertion direction is substantially different from the feed direction (figure 2, reference 12, 24A); wherein at least a portion of the insertion perimeter is shaped to form a visually recognizable symbol (figure 2, reference 12)

- {claim 8} A set of ink sticks (figure 2, reference 12A, 24A-D); a plurality of ink stick feed channels (figure 2, reference 25A-D); a plurality of ink stick openings (figure 2, reference 24A-D); a first ink stick comprising a first three dimensional ink stick body (figure 2, reference 12); wherein the wherein the first ink stick body has a first insertion perimeter forming the shape of a first visually identifiable symbol (figure 2, reference 12); wherein the first insertion perimeter is oriented in a different direction than the first feed direction (figure 2, reference 12); a second ink stick comprising a second three dimensional ink stick body (figure 2, reference 24B;ink stick associated with 24B is inherent); wherein the second ink stick body has a second insertion perimeter forming the shape of a second visually identifiable symbol (figure 2, reference 24B; ink stick corresponding with the insertion perimeter is inherent); wherein the second insertion perimeter is oriented in a different direction than the second feed direction (inherent in light of figure 2, reference 12); wherein the second visually identifiable symbol is different from the first visually identifiable symbol (figure 2, reference 24A-B)

- {claim 9} whereinthe first and second visually identifiable symbols form a pattern of symbols (figure 2, reference 12, 24A-D)
- {claim 14} a third ink stick comprising a first three dimensional ink stick body (figure 2, reference 24C; associated ink stick inherent); wherein the third ink stick body has a third insertion perimeter forming the shape of a third visually identifiable symbol (figure 2, reference 24C; associated ink stick inherent); wherein the third insertion perimeter is oriented in a different direction than the third feed direction (inherent in light of figure 2, reference 12); wherein the third visually identifiable symbol is different from both the first and second visually identifiable symbols (figure 2, reference 24 A-D)
- {claim 15} a fourth ink stick comprising a fourth three dimensional ink stick body (figure 2, reference 24D; associated ink stick inherent); wherein the fourth ink stick body has a fourth insertion perimeter forming the shape of a fourth visually indentifiable symbol (figure 2, reference 24D; associated ink stick inherent); wherein the second insertion direction is oriented in a different direction than the fourth feed direction (inherent in light of figure 2, reference 12); wherein the fourth visually identifiable symbol is different from all of the first, second, and third visually identifiable symbols (figure 2, reference 24A-D)
- {claim 16} wherein the first, second, third, and fourth visually identifiable symbols form a pattern of visually identifiable symbols (figure 2, reference 12, 24A-D)

- {claim 23} A method of inserting an ink stick into an ink feed system (figure 2, reference 12); identifying an ink stick perimeter shape (figure 2, reference 12); matching the ink stick perimeter shape with a correspondingly shaped key plate opening of the ink feed system (figure 2, reference 24A); inserting the ink stick in an insertion direction through the key plate opening (figure 2, reference 24A); wherein the feed direction is different from the insertion direction (figure 2, reference 12, 24A)
- {claim 24} wherein the insertion direction is substantially perpendicular to the feed direction (figure 2, reference 12, 24A)

Crawford et al differs from the claimed invention in that it does not explicitly disclose:

- {claim 1} an elongate shaped guide rail extending in a feed channel; a non-planar shaped guide element formed in the guide surface shaped to interact with the elongate shaped guide rail of the solid ink feed system for guiding the ink stick along the guide rail
- {claim 5} an elongate shaped guide rail extending in a feed direction; a non-planar shaped guide element formed in the guide surface shaped to interact with the elongate shaped guide rail of the solid ink feed system for guiding the ink stick along the guide rail
- {claim 6} wherein the visually recognizable symbol is an alphanumeric symbol
- {claim 7} wherein the non-planar shaped guide element is an elongate non-planar shaped guide element that extends in the feed direction along the entire length of the guide surface

- {claim 8} each ink stick feed channel having an elongate shaped guide rail extending in a feed direction; wherein the first ink stick body has a first non-planar shaped guide element oriented in a first feed direction; wherein the first non-planar shaped guide element is shaped to interact with the elongate shaped guide rail of a corresponding first ink stick feed channel for guiding the ink stick in the first feed direction along the first guide rail; wherein the second ink stick body has a second non-planar shaped guide element oriented in a second feed direction; wherein the second non-planar shaped guide element is shaped to interact with the elongate guide rail of a corresponding second ink stick feed channel for guiding the ink stick in the second feed direction along the second guide rail
- {claim 13} wherein the first and second shaped guide elements of the first and second ink sticks are substantially identical in shape and size
- {claim 14} wherein the third ink stick body has a third non-planar shaped guide element oriented in a third feed direction; wherein the third non-planar shaped guide element is shaped to interact with the elongate shaped guide rail of a corresponding third ink stick feed channel for guiding the third ink stick in the third feed direction along the third guide rail
- {claim 15} wherein the fourth ink stick body has a fourth non-planar shaped guide element oriented in a fourth feed direction; wherein the fourth shaped guide element is shaped to interact with the elongate guide rail of a

corresponding fourth ink stick feed channel for guiding the ink stick in the fourth feed direction along the fourth guide rail

- {claim 23} engaging a shaped ink stick guide element on the ink stick with a shaped guide rail in the ink feed system having a shape corresponding to the shape of the shaped guide element
- {claim 25} wherein inserting the ink stick through the key plate opening comprises inserting the portion of the ink stick having the shaped ink stick guide element through the key plate opening before inserting other portions of the ink stick

Crawford et al discloses:

- {claim 6} wherein the visually recognizable symbol is an alphanumeric symbol (though this is not readily apparent from Crawford et al, based on the wording of the claimed limitation, the right side portion of figure 2, reference 12 can be construed to show alphanumeric symbol "3". Thus the claimed invention is implied though not explicitly stated)

Loofbourow et al discloses:

- {claim 1} an elongate shaped guide rail extending in a feed channel (figure 4, reference 39b); a non-planar shaped guide element formed in the guide surface shaped to interact with the elongate shaped guide rail of the solid ink feed system for guiding the ink stick along the guide rail (figure 3, reference 12)

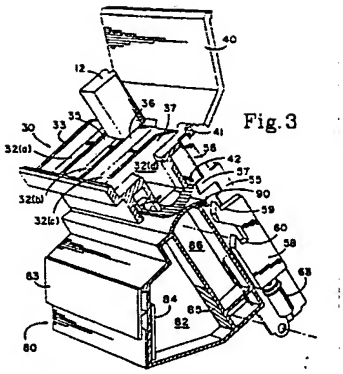

Fig.3

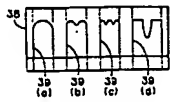

Fig.4

- {claim 5} an elongate shaped guide rail extending in a feed direction; a non-planar shaped guide element formed in the guide surface shaped to interact with the elongate shaped guide rail of the solid ink feed system for guiding the ink stick along the guide rail (figure 4, reference 39b)
- {claim 7} wherein the non-planar shaped guide element is an elongate non-planar shaped guide element that extends in the feed direction along the entire length of the guide surface (figure 3, reference 12)
- {claim 8} each ink stick feed channel having an elongate shaped guide rail extending in a feed direction (figure 4, reference 39a-d); wherein the first ink stick body has a first non-planar shaped guide element oriented in a first feed direction (figure 4, reference 39a); wherein the first non-planar shaped guide element is shaped to interact with the elongate shaped guide rail of a corresponding first ink stick feed channel for guiding the ink stick in the first feed direction along the first guide rail (column 6, lines 43-66); wherein the second ink stick body has a second non-planar shaped guide element oriented in a

second feed direction (figure 4, reference 39b; column 6, lines 43-66); wherein the second non-planar shaped guide element is shaped to interact with the elongate guide rail of a corresponding second ink stick feed channel for guiding the ink stick in the second feed direction along the second guide rail (figure 4, reference 39b)

- {claim 13} wherein the first and second shaped guide elements of the first and second ink sticks are substantially identical in shape and size (figure 3, reference 12; figure 4, reference 39a-39d; column 6, lines 43-66)
- {claim 14} wherein the third ink stick body has a third non-planar shaped guide element oriented in a third feed direction (figure 4, reference 39c; column 6, lines 43-66); wherein the third non-planar shaped guide element is shaped to interact with the elongate shaped guide rail of a corresponding third ink stick feed channel for guiding the third ink stick in the third feed direction along the third guide rail (figure 4, reference 39c)
- {claim 15} wherein the fourth ink stick body has a fourth non-planar shaped guide element oriented in a fourth feed direction (figure 4, reference 39d; column 6, lines 43-66); wherein the fourth shaped guide element is shaped to interact with the elongate guide rail of a corresponding fourth ink stick feed channel for guiding the ink stick in the fourth feed direction along the fourth guide rail (figure 4, reference 39d)
- {claim 23} engaging a shaped ink stick guide element on the ink stick with a shaped guide rail in the ink feed system having a shape corresponding to the

shape of the shaped guide element (figure 3, reference 12; figure 4, reference 39a)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Crawford et al so that a visually recognizable symbol is an alphanumeric symbol. The motivation for the skilled artisan in doing so is to gain the benefit of providing unique identifiable keying means for different types and colors of ink sticks.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Loofbourow et al into the invention of Crawford et al. The motivation for the skilled artisan in doing so is to gain the benefit of permitting an untrained operator to safely load ink without inadvertently interchanging different types of ink (column 4, lines 15-19). The combination naturally suggests wherein inserting the ink stick through the key plate opening comprises inserting the portion of the ink stick having the shaped ink stick guide element through the key plate opening before inserting other portions of the ink stick.

Allowable Subject Matter

Claims 3, 10-12, 17-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 discloses "wherein the insertion perimeter forms an alphanumeric character, and the at least one perimeter section form a portion of the alphanumeric character," which was not found, taught, or disclosed in the prior arts.

Claim 10 discloses, "the first visually identifiable symbol is a first alphanumeric character and the second visually identifiable symbol is a second alphanumeric character," which was not found, taught, or disclosed in the prior arts.

Claims 11-12 depend from objected claim 10.

Claim 17 discloses "wherein the first, second, third and fourth visually identifiable symbols are a sequence of four consecutive alphanumeric characters," which was not found, taught, or disclosed in the prior arts.

Claim 18 depends from objected claim 17.

Claim 19 discloses "the first ink stick lateral perimeter segments are on opposite sides of the first ink stick body; the first ink stick lateral perimeter segments form the shape of a first alphanumeric character; the second horizontal perimeter has at least two second ink stick lateral perimeter segments; and the second ink stick lateral perimeter segments are on opposite sides of a second ink stick body; and the second ink stick lateral perimeter segments form the shape of the second alphanumeric character," which was not found, taught, or disclosed in the prior arts.

Claims 20-22 depend from objected claim 19.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ishii et al (US Pat 6053608) discloses an ink pellet with step configuration including slidable bearing surfaces.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lsl LSL

LAMSON NGUYEN
PRIMARY EXAMINER
04/04/07